activated state if the carrier signal resumes within the predetermined time period.

This method is not taught or even suggested by the references of record, taken singly or in combination, and these references provide no teaching that would render this method obvious.

Goldman et al, in the broad sense, discloses a cellular system using data packets and modems. However, these are common features in all cellular telephone systems and have nothing to do with the novel method defined by applicants claims 1-9. What Goldman et al doesn't show is even the basic structure which is used to perform the method of claims 1-9. Applicant's method involves the transmission of data from a transmitting station over a cellular telephone system by means of a modem connected to a cellular telephone system. Goldman et al doesn't even contemplate the use of this basic structural combination which is controlled by the method of claims 1-10. Instead, Goldman et al transmits from a mobile site having no modem over a cellular telephone system in a conventional manner to a cell site control system which is provided with modems. Since this cell site control system is fixed, it doesn't move between cells of the cellular telephone system and the modems do not lose their carrier signals so there is no need for the novel method of applicant's claims 1-9. Neither Goldman et al or Goldman et al combined with Burke et al has anything to do with controlling the activated state of a modem when the modem carrier signal is lost.

The problems caused to data transmission over a cellular telephone by the loss of a carrier signal when the cellular telephone system passes between cells has long been recognized, and applicant's assignee and others have been attempting for some time to rectify these problems as illustrated by the attached articles (Cellular Link Is Step To Portable Office, J. Robert

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Lineback, Electronics, June 28, 1984; Firm Unveils Cellular Bridge, Jim Bartimo, Info World, July 2, 1984.) Obviously, the loss of a carrier signal which disables a transmitting modem does not occur inadvertantly in stationary data transmission systems. For example, the attached patent to Faggin et al (4,524,244) shows a digital and voice telecommunication apparatus wherein digital data signals are sent by means of a modem 44 and a cross point matrix 50 over a telephone line. In response to the end of a data carrier signal, a CPU72 shuts down the cross point matrix. However, this is a planned shutdown, and there is no disclosure of a method whereby activation of the modem is maintained for a predetermined period after the loss of carrier.

It is therefore known to connect a modem to a mobile cellular telephone and to transmit data and voice signals over the cellular telephone as disclosed by the two articles submitted herewith. Also mobile communications systems are well known as illustrated by the Karlstrom patent (4,414,661), the two Freeburg patents (4,525,861 and 4,545,071), and the LoPinto patent (4,549,308) submitted herewith. Furthermore, the concept of connecting data by means of a stationary modem to telephone lines is well known as disclosed by the previously mentioned Faggin et al patent as well as the Kessler patent (4,503,288), Gruenburg patent (4,337,376) and Seibel patent (4,488,002) submitted herewith.

None of the references submited herewith or the references cited by the examiner anticipate the novel method of claims 1-9 for controlling a modem directly connected to a cellular telephone transmitter when the carrier is lost as the transmitter moves between cells. Not only do these references fail to suggest a method whereby the modem is maintained in an activated state for a predetermined time period after a loss of the

59

carrier signal and is caused to remain activated if the carrier signal resumes within the predetermined time period. None of these references discloses the concept of providing a unique data byte to the modem during a break in the data signal as defined by claim 3, and no reference discloses the concept of adding an error control correction data format to the data signal before providing data signal to the modem as defined by claims 2 and 4-9. If the specifics of the method defined by claims 1-9 are so obvious, there must be numerous references showing these specifics, and applicant respectfully requests that the examiner cite some of these references. Based upon the references cited by the examiner and those located by applicant and provided herewith, the method of claims 1-9 appears to be far from obvious.

Claims 10 and 11 define a novel method for transmitting data between a transmitting and a receiving station which includes dividing the data into data packets of a specific configuration and transmitting these data packets to a receiving station where the data words therein are examined for error. An acknowledgement signal is transmitted to the transmitting station for each acceptable data word, and unacceptable data packets are retransmitted. The frequency of error in the received data packets is determined from the acknowledgment signals and the size of data packages to be transmitted is adjusted in accordance with the error frequency.

As indicated by the examiner in the Office Action, Burke et al of record discloses the use of an error correction method within data packets. As defined in column 14 of Burke et al, all commands issued by a control processor 150 or local processors 110 are acknowledged, and if an acknowledgement packet does not occur within the next control processor poll cycle, retransmission will result. The Burke et al reference

59

is dealing with signalling among processors within a system, and the data packets involved are not variable (note column 14, lines 34-37). Conversely, the method of claims 10 and 11 deals with adjusting the size of data packets in accordance with error frequency; a feature which is not obvious and is not contemplated by Burke et al or the remaining references of record.

Claims 18-25 define the structure of a data processing interface for performing the specific method of claims 10 and 11. Basically, claims 18-25 define a system which determines from acknowledgement signals transmitted by a receiver the frequency of errors in transmitted data packets and which then adjusts the size of subsequent data packets in accordance with this error frequency. As previously pointed out with respect to claims 10 and 11, no such structure is disclosed by Burke et al or the remaining references of record. Also there is no suggestion or teaching provided by any reference which would suggest the combination made by the examiner to render obvious the structure defined by claims 18-25, In re Imperato, 179 USPQ 730 (CCPA 1973).

Claims 12-17 all define systems having structure which prevents the modem in a cellular telephone system from disconnecting in response to the loss of a carrier signal but which sends a disconnect signal to the modem when a predetermined delay period elapses after the carrier signal is lost. As previously noted with respect to claims 1-9, no reference of record or combination thereof teaches this concept or discloses a structure for performing this function.

60